

## Efficient, Long-Life Biocidal Condenser, Phase I

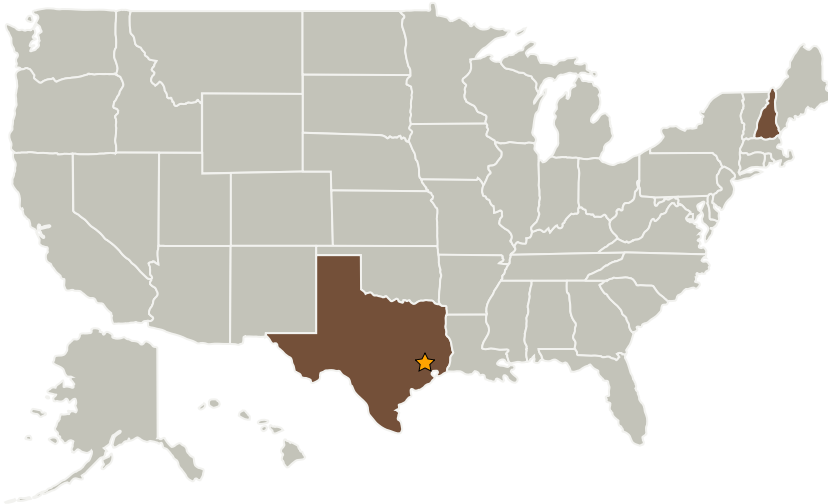
Completed Technology Project (2007 - 2007)



## Project Introduction

Environmental control systems for manned lunar and planetary bases will require condensing heat exchangers to control humidity. Condensing surfaces must be hydrophilic to ensure efficient operation and biocidal to prevent growth of microbes in the moist, condensing environment. The coatings must be extremely stable and adhere to the condensing surface for many years. We propose an innovative condenser that will enable highly efficient heat transfer using an innovative coating that has proven to be highly biocidal, hydrophilic, and stable. In Phase I we will prove feasibility by demonstrating the performance of the proposed hydrophilic and biocidal surface under prototypical conditions. In Phase II we will demonstrate a full-size, prototype condenser designed to meet the requirements for future lunar and planetary bases.

## Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Johnson Space Center(JSC)	Lead Organization	NASA Center	Houston, Texas
Creare LLC	Supporting Organization	Industry	Hanover, New Hampshire



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## Organizational Responsibility

**Responsible Mission Directorate:**

Space Technology Mission Directorate (STMD)

**Lead Center / Facility:**

Johnson Space Center (JSC)

**Responsible Program:**

Small Business Innovation Research/Small Business Tech Transfer

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### Primary U.S. Work Locations

New Hampshire

Texas

### Project Management

**Program Director:**

Jason L Kessler

**Program Manager:**

Carlos Torrez

### Technology Areas

**Primary:**

- TX14 Thermal Management Systems
  - └ TX14.2 Thermal Control Components and Systems
    - └ TX14.2.3 Heat Rejection and Storage